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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
SOLANKI, PARIKHA	

ART UNIT	PAPER NUMBER
3737	

DATE MAILED: 11/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

NT

Office Action Summary	Application No.	Applicant(s)	
	10/725,155	DAMADIAN, RAYMOND V.	
	Examiner	Art Unit	
	Parikha Solanki	3737	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12/1/03,4/8/04,5/14/04,6/4/04*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _____ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *5/14/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Applicant's claim to benefit from prior-filed US Patent Application No. 60/429,973 under 35 U.S.C. 119 (e) or 35 U.S.C. 120, 121 or 365 (c) is hereby acknowledged and accepted.

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on 14 May 2004 was filed after the mailing date of the application on 1 December 2003. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Specification

3. Applicant is reminded of the proper content of an abstract of the disclosure. A patent abstract is a concise statement of the technical disclosure of the patent and should include that which is new in the art to which the invention pertains. If the patent is of a basic nature, the entire technical disclosure may be new in the art, and the abstract should be directed to the entire disclosure. If the patent is in the nature of an improvement in an old apparatus, process, product, or composition, the abstract should include the technical disclosure of the improvement. In certain patents, particularly those for compounds and compositions, wherein the process for making and/or the use thereof are not obvious, the abstract should set forth a process for making and/or use thereof. If the new technical disclosure involves modifications or alternatives, the abstract should mention by way of example the preferred modification or alternative.

The abstract should not refer to purported merits or speculative applications of the invention and should not compare the invention with the prior art.

Where applicable, the abstract should include the following:

(1) if a machine or apparatus, its organization and operation;

(2) if an article, its method of making;

(3) if a chemical compound, its identity and use;

(4) if a mixture, its ingredients;

(5) if a process, the steps.

Extensive mechanical and design details of apparatus should not be given.

4. The abstract of the disclosure is objected to because it does not describe those features of the present invention considered to be new in the art. It is suggested that the abstract be modified to describe the claimed invention in more specific detail. It is also suggested that the abstract should include more than one sentence in order to adequately describe the claimed invention. Correction is required. See MPEP § 608.01(b).

5. The written disclosure is objected to because of the following informalities: line 3 of paragraph 15 of the written description contains a typographical error. It is suggested that the word "and," currently appearing before the word "discloses," should be removed from this sentence. Appropriate correction is required.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claim 16 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 16 recites the limitation "the desired motion" in line 3. There is insufficient antecedent basis for this limitation in the claim. It is suggested that the claim be modified to replace "imparting the desired motion to said vertical support members" with "moving said vertical members" or a similar modification thereof.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. Claims 1, 3-7, 9, 21 and 22 are rejected under 35 U.S.C. 102(e) as being anticipated by Zuk (US Pre-Grant Publication No. 2002/0123681).

Regarding claims 1, 3-7 and 12-14, Zuk ('681) discloses a U-shaped superconducting magnet **10** having a gap for receiving a patient, and means **17** for moving the magnet so that a portion of a region of interest of the patient can be imaged, the means comprising an electrical motor which may be connected to a jack for lowering or raising the magnet (Fig. 1, ¶ 0019-21, ¶ 0065). Zuk ('681) shows a patient support platform **36** positioned within the gap for supporting the patient (Fig. 2). Zuk ('681) also provides vertical support members **16A** for moving the magnet in a vertical direction (Figure 1).

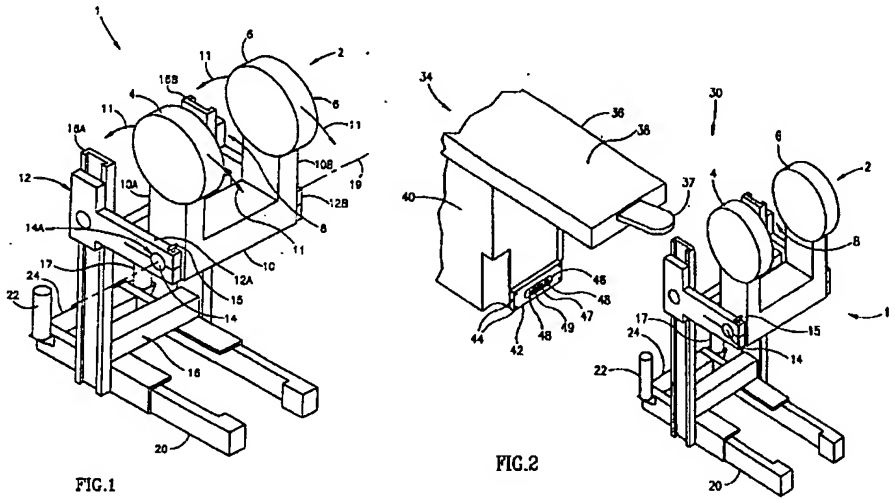

FIG.1 FIG.2

(Source: Zuk (US PG Pubs. No. 2002/0123681), pages 2 & 3)

Zuk ('681) further discloses that the electrical motor may be mechanically coupled to the framework, thereby comprising an electromechanical device (¶ 0065).

Regarding claims 21 and 22, Zuk ('681) discloses that the U-shaped magnet may be superconductive (¶ 0021).

Regarding claim 17, Zuk ('681) discloses a method of using the aforementioned apparatus, which includes establishing a static magnetic field between the magnet gap of the above-noted apparatus, positioning a patient within a patient receiving space, positioning the magnetic field by vertically translating the magnet, and obtaining an MR image of the patient's anatomy (¶ 0015, ¶ 0082). Zuk ('681) provides for the use of a gradient coil as the MRI probe, which inherently supplies a gradient magnetic field for obtaining the patient image (¶ 0139).

Zuk ('681) further discloses supporting the patient on an operating table, equivalent to a patient support, while in the patient receiving space (¶ 0112). Zuk ('681) provides a step for moving the MRI probe into a position suitable for imaging a selected portion of the patient's anatomy, which inherently anticipates lowering the magnet (¶ 0092). Zuk ('681) further discloses that screws may be used to mechanically couple the motor to the magnet to control motion of the magnet (¶ 0065).

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

11. Claims 2, 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zuk ('681) in view of Cho (Foundations of Medical Imaging, Wiley Interscience, © 1993). Zuk ('681) discloses all features of the present invention as described above, with the exception of explicitly specifying that the U-shaped magnet is a solenoid. It is well-known in the art to use a solenoid in situations where an electromagnet is needed, and it is also well-known that state-of-the-art MRI systems for medical imaging commonly employ solenoids as electromagnets. For example, Cho (1993) states that solenoids are commonly used in medical MR imaging systems (p. 257). Thus, it would have been obvious to one of ordinary skill in the art to create a medical imaging system according to Zuk ('681), employing a solenoid for the disclosed electromagnet, in light of the MR imaging techniques known at the time of invention.

12. Claims 8, 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zuk ('681) in view of Hayashi (US Pat. No. 6,424,854). Zuk ('681) discloses all features of claims 5 and 9, upon which claims 8, 15, and 16 depend, as described above. Zuk ('681) is silent with respect to whether mechanical device used to couple the magnet to the motor is hydraulic or pneumatic. Hayashi ('854) describes the use of a hydraulic device for positioning a magnet during magnetic resonance imaging (col. 3 line 65 – col. 4 line 3). It would have been obvious to one of ordinary skill in the art at the time of invention to use a pneumatic device in place of a hydraulic device, as it is well-known in the art that both devices are MR-imaging compatible.

The pneumatic device provides the advantage that, in the event of a leak or malfunction, it would not release liquid that could potentially damage the electrical motor. It then follows that it would have been obvious to one of ordinary skill in the art to use a hydraulic or pneumatic device to mechanically couple the motor and magnet of Zuk ('681), in view of the teachings of Hayashi ('854).

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Hanley et al (US Pat. No. 5,565,834) disclose a related apparatus and method for vertically adjusting a magnet for MR imaging.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Parikha Solanki whose telephone number is 571.272.3248. The examiner can normally be reached on M-F, 8 - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Casler can be reached on 571.272.4956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Parikha Solanki
Examiner – Art Unit 3737

BRIAN L. CASLER
SUPERVISORY PATENT EXAMINER
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